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# UNITED STATES STANDARDS

*for grades of*

# CANNED TOMATO JUICE

**Second Issue**

**EFFECTIVE JUNE 24, 1958**

UNITED STATES DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
FRUIT AND VEGETABLE DIVISION  
PROCESSED PRODUCTS STANDARDIZATION AND INSPECTION BRANCH

These standards supersede the standards which have been in effect since  
August 29, 1938

This is the second issue of the United States Standards for Grades of Canned Tomato Juice. These standards are issued by the Department after careful consideration of data and views submitted. They were published in the Federal Register of May 24, 1958 (23 F.R. 3592) to become effective on June 24, 1958.

These standards are included in the Code of Federal Regulations, Title 7 -- Agriculture, Part 52.

Issued under the authority of the Agricultural Marketing Act of 1946, which provides for the development of official U.S. grades to designate different levels of quality, the grade standards are for the voluntary use of producers, suppliers, buyers, and consumers. As in the case of other standards for grades of processed fruits and vegetables, these standards are designed to facilitate orderly marketing by providing a convenient basis for buying and selling, for establishing quality control programs, and for determining loan values.

These standards will also serve as a basis for the inspection and grading of this commodity by the Federal inspection service, which is also provided under the Agricultural Marketing Act of 1946. This service, available for inspection and grading of other processed products as well, is offered to interested parties, upon application, on a fee-for-service basis.

These standards are issued by the Department after careful consideration of all data and views submitted, and the Department welcomes suggestions which might aid in improving the standards in future revisions. Comments may be submitted to, and copies of standards obtained from:

Chief, Processed Products Standardization  
and Inspection Branch  
Fruit and Vegetable Division, AMS  
U.S. Department of Agriculture  
Washington, D.C. 20250

# UNITED STATES STANDARDS FOR GRADES OF CANNED TOMATO JUICE <sup>1</sup>

Effective June 24, 1958

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AUTHORITY: §§ 52.3621 to 52.3630 issued under sec. 205, 60 Stat. 1090. as amended; 7 U. S. C. 1624.

## PRODUCT DESCRIPTION AND GRADES

§ 52.3621 *Product description.* "Canned tomato juice" means tomato juice prepared from clean, sound tomatoes of the red or reddish varieties, as such product is defined in the Standard of Identity for Tomato Juice (21 CFR 53.1) issued pursuant to the Federal Food, Drug, and Cosmetic Act. It is packed in hermetically sealed containers and is sufficiently processed by heat, before or after sealing, to assure preservation of the product.

<sup>1</sup> Compliance with the provisions of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act.

§ 52.3622 *Grades of canned tomato juice.* (a) "U. S. Grade A" (or "U. S. Fancy") is the quality of canned tomato juice that possesses a good color; that possesses a good consistency; that is practically free from defects; that possesses a good flavor; and scores not less than 85 points when scored in accordance with the scoring system outlined in this subpart: *Provided*, That the canned tomato juice may possess only a fairly good color, scoring not less than 25 points and a fairly good consistency, if the total score is not less than 85 points.

(b) "U. S. Grade C" (or "U. S. Standard") is the quality of canned tomato juice that possesses a fairly good color; that possesses a fairly good consistency; that is fairly free from defects; that possesses a fairly good flavor, and that scores not less than 70 points when scored in accordance with the scoring system outlined in this subpart.

(c) "Substandard" is the quality of canned tomato juice that fails to meet the requirements of U. S. Grade C.

## FILL OF CONTAINER

§ 52.3623 *Recommended fill of container.* Fill of container is not incorporated in the grades of the finished product, since fill of container, as such, is not a factor of quality for the purposes of these grades. It is recommended that each container of tomato juice be filled as full as practicable without impairment of quality, and that the product occupy not less than 90 percent of the capacity of the container.



## FACTORS OF QUALITY

§ 52.3624 *Ascertaining the grade of a sample unit.* In addition to considering other requirements outlined in the standards, the quality factors of color, consistency, defects, and flavor are evaluated in ascertaining the grade of the product. The relative importance of each factor is expressed numerically on the scale of 100. The maximum number of points that may be given for each such factor is:

Factors:	Points
Color -----	30
Consistency -----	15
Defects -----	15
Flavor -----	40
Total score-----	100

§ 52.3625 *Color*—(a) *General.* (1) The amount of red in the canned tomato juice is determined by comparing the color of the product with that produced by spinning a combination of the following Munsell color discs:

- Disc 1—Red (5R 2.6/13) (glossy finish).
- Disc 2—Yellow (2.5 YR 5/12) (glossy finish).
- Disc 3—Black (N1) (glossy finish).
- Disc 4—Grey (N4) (mat finish).

(2) Such comparison is to be made under a diffused light source of approximately 250 foot-candle intensity and having a spectral quality approximating that of daylight under a moderately overcast sky, and a color temperature of 7500 degrees Kelvin  $\pm$  200 degrees. With the light source directly over the disc and product, observation is made at an angle of 45 degrees from a distance of about 24 inches from the product.

(b) (A) *classification.* Canned tomato juice that possesses a good color may be given a score of 26 to 30 points. "Good color" means a color that is typical of canned tomato juice, made from well ripened red tomatoes, which has been properly prepared and properly processed. Such color contains as much red as, or more red than, that produced by spinning the specified Munsell color discs in the following combinations: 65 percent of the area of Disc 1; 21 percent of the area of Disc 2; 14 percent of the area of Disc 3 or of Disc 4, or 7 percent of the area of Disc 3 and 7 percent of the

area of Disc 4, whichever most nearly matches the reflectance of the product.

(c) (C) *classification.* If the canned tomato juice possesses a fairly good color a score of 23 to 25 points may be given. Canned tomato juice that scores 23 or 24 points for color shall not be graded above U. S. Grade C, regardless of the total score for the product (this is a partial limiting rule). "Fairly good color" means a color that is typical of canned tomato juice. To score 25 points for color the juice shall contain as much red as, or more red than, that produced by spinning the specified Munsell color discs in the following combinations: 59 percent of the area of Disc 1; 24½ percent of the area of Disc 2; 16½ percent of the area of either Disc 3 or Disc 4, or 8¼ percent of the area of Disc 3 and 8¼ percent of the area of Disc 4, whichever most nearly matches the reflectance of the product. To score 23 or 24 points for color the canned tomato juice shall contain as much red as, or more red than, that produced by spinning the specified Munsell color discs in the following combinations: 53 percent of the area of Disc 1; 28 percent of the area of Disc 2; 19 percent of the area of either Disc 3 or Disc 4, or 9½ percent of the area of Disc 3 and 9½ percent of the area of Disc 4, whichever most nearly matches the reflectance of the product.

(d) (SStd.) *classification.* Canned tomato juice that fails to meet the requirements of paragraph (c) of this section may be given a score of 0 to 22 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

§ 52.3626 *Consistency*—(a) *General.* This factor has reference to the viscosity of the product. The tendency of the insoluble solids to separate, leaving practically clear liquid at the top is also to be noted in this connection.

(b) (A) *classification.* Canned tomato juice that possesses a good consistency may be given a score of 13 to 15 points. "Good consistency" means that the canned tomato juice flows readily; has a normal amount of insoluble tomato solids in suspension; and that there is little tendency for such solids to settle out.



(c) *(C) classification.* If the canned tomato juice possesses a fairly good consistency a score of 10 to 12 points may be given. "Fairly good consistency" means that the product flows readily; has a normal amount of insoluble tomato solids in suspension; and that there is not a marked tendency for such solids to settle out.

(d) *(SStd.) classification.* Canned tomato juice that fails to meet the requirements of paragraph (c) of this section may be given a score of 0 to 9 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

§ 52.3627 *Defects*—(a) *General.* The factor of defects refers to the degree of freedom from defects, such as dark specks or scale-like particles, seeds, particles of seed, tomato peel, core material, or other similar substances.

(b) *(A) classification.* Canned tomato juice that is practically free from defects may be given a score of 13 to 15 points. "Practically free from defects" means that any defects present do not more than slightly affect the appearance or drinking quality of the product.

(c) *(C) classification.* If the canned tomato juice is fairly free from defects a score of 10 to 12 points may be given. Canned tomato juice that falls into this classification shall not be graded above U. S. Grade C, regardless of the total score for the product (this is a limiting rule). "Fairly free from defects" means that any defects present may be noticeable, but are not so large, so numerous, or of such contrasting color as to seriously affect the appearance or drinking quality of the product.

(d) *(SStd.) classification.* Canned tomato juice that fails to meet the requirements of paragraph (c) of this section may be given a score of 0 to 9 points and shall not be graded above

Substandard, regardless of the total score for the product (this is a limiting rule).

§ 52.3628 *Flavor*—(a) *(A) classification.* Canned tomato juice that possesses a good flavor may be given a score of 33 to 40 points. "Good flavor" means a distinct canned tomato juice flavor and odor characteristic of good quality tomatoes. To score in this classification the flavor of the product shall not be adversely affected by stems, leaves, crushed seeds, cores, immature tomatoes, or the effects of improper trimming or processing.

(b) *(C) classification.* If the tomato juice possesses only a fairly good flavor a score of 27 to 32 points may be given. Canned tomato juice that falls into this classification shall not be graded above U. S. Grade C, regardless of the total score for the product (this is a limiting rule). "Fairly good flavor" means a characteristic canned tomato juice flavor. To score in this classification the flavor may be affected adversely, but not seriously so, by stems, leaves, crushed seeds, cores, immature tomatoes, or the effects of improper trimming or processing.

(c) *(SStd.) classification.* Canned tomato juice that fails to meet the requirements of paragraph (b) of this section may be given a score of 0 to 26 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

#### LOT INSPECTION AND CERTIFICATION

§ 52.3629 *Ascertaining the grade of a lot.* The grade of a lot of canned tomato juice covered by these standards is determined by the procedures set forth in the Regulations Governing Inspection and Certification of Processed Fruits and Vegetables, Processed Products Thereof, and Certain Other Processed Food Products (§§ 52.1 to 52.87; 22 F. R. 3535).

## SCORE SHEET

§ 52.3630 *Score sheet for canned tomato juice.*

Type of container.....	.....
Container size.....	.....
Label.....	.....
Code.....	.....
Volume (fl. ozs.).....	.....
Vacuum (inches).....	.....

  

Factors	Score points
Color.....	30 { (A) 26-30 (C) <sup>1</sup> 23-25 (SStd.) <sup>2</sup> 0-22
Consistency.....	15 { (A) 13-15 (C) 10-12 (SStd.) <sup>2</sup> 0-9
Defects.....	15 { (A) 13-15 (C) <sup>2</sup> 10-12 (SStd.) <sup>2</sup> 0-9
Flavor.....	40 { (A) 33-40 (C) <sup>2</sup> 27-32 (SStd.) <sup>2</sup> 0-26
Total score.....	100

  

Grade.....	.....
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<sup>1</sup> Indicates partial limiting rule.

<sup>2</sup> Indicates limiting rule.

*Effective time and supersedure.* The United States Standards for Grades of Canned Tomato Juice (which is the second issue) contained in this subpart shall become effective 30 days after the date of publication hereof in the **FEDERAL REGISTER** and thereupon will supersede the United States Standards for Grades of Canned Tomato Juice which have been in effect since August 29, 1938.

Dated: May 21, 1958.

[SEAL] **FRANK E. BLOOD,**  
*Acting Deputy Administrator,*  
*Marketing Service.*

*Published in the Federal Register May 24, 1958 (23 F.R. 3592).*







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